



Strategic Environmental Planning and Management
for the Peri-urban Interface
Research Project

**OVERVIEW OF INITIATIVES REGARDING
THE MANAGEMENT OF THE PERI-URBAN INTERFACE**

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ACRONYMS

AGA	Animal Production and Health (one of FAO's Agriculture Department Divisions)
AGAH	Animal Health Service - part of the Animal Production and Health Division (AGA) of FAO.
AGAP	Animal Production Service - part of the Animal Production and Health Division (AGA) of FAO.
AGP	Plant production and protection (one of FAO's Agriculture Department Divisions)
AGSM	Agricultural Marketing Sub-Service - part of the Agricultural Support Systems Division (AGS) of FAO.
BPL	Best Practices and Local Leadership Programme
CFP	Cities Feeding People Programme
CIDA	Canadian International Development Agency
CIMEP	Community Involvement in Management of Environmental Pollution (USAID)
COHAPAR	Paraná State Housing Agency
DFID	Department for International Development (United Kingdom)
EPM	Environmental Planning and Management
FAO	Food and Agriculture Organisation
FDA	French Development Agency
FORC	Forest Conservation Wildlife and Contribution to Food Security- part of Forestry Resource Division (FAO's Forestry Department)
FSDS	Food Supply and Distribution Systems
GESI	Global Environmental Sanitation Initiative
GIS	Geographical Information Systems
GTZ	German Agency for Technical Co-operation
IDRC	International Development Research Centre (Canada)
IIED	International Institute for Environment and Development
INSAP	Instituto de Salud Popular - Institute of Community Health (Peruvian NGO)
LIFE	Local Initiative Facility for Urban Environment Programme
MEIP	Metropolitan Environmental Improvement Programme
NGO	Non-Governmental Organisation
NRI	Natural Resources Institute
NRSP	Natural Resources System Programme
PROSPECT	Programme of Support for Poverty Elimination and Community Transformation (CARE)
PUI	Peri-Urban Interface
PULSE	Peri-urban Lusaka Small Enterprise Project (CARE)
PUSH	Project Urban Self Help (CARE)
RNRRS	Renewable Natural Resources Research Strategy (DFID)
SCP	Sustainable Cities Programme
SIDA	Swedish International Cooperation Agency
SIEP	Settlements, Infrastructure and Environmental Programme
UA	Urban Agriculture
UGB	Urban Growth Boundary
UMP	Urban Management Programme
UNCHS	United Nations Centre for Human Settlements (Habitat)
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations International Children's Emergency Fund
UPA	Urban and Peri-urban Agriculture
USAID	United States Agency for International Development
WHO	World Health Organisation
WSP	Water and Sanitation Programme
WSSCC	Water Supply and Sanitation Collaborative Council

1. INTRODUCTION

The aim of this paper is to provide an overview of the initiatives that are being taken with respect to the management of the peri-urban interface by development agencies, NGOs, research institutes and government authorities. The report is structured in two parts: the first will consider the initiatives being undertaken at the programme level and the second will consider interventions at the project level. This distinction has been made because the aim of this research project is to generate policy guidelines for the planning and management of the peri-urban interface with specific attention to the poor, including recommendations for effective strategies for this end. At the programme level agencies' policies are more apparent and the section on programmes seeks to reflect this, while the section on project interventions aims to highlight actual strategies for planning and management in specific cases.

The programme overview will consider multilateral and bilateral programmes with relevance to peri-urban areas, and will describe the agencies' and programmes' conceptualisation of peri-urban areas and the rationale behind working in such areas. The review also considers areas of intervention and policies and strategies being applied to such areas. The overview at the project level will also examine the conceptualisation of the peri-urban interface and the rationale for focusing on it, highlighting dominant themes and specific factors. The policies and strategies for the management of the peri-urban interface at the project level will be considered, and project recommendations for policy and evaluations of good practice will be outlined.

Several sources of information were used including interviews with programme and project officers, programme and project reports, CD-ROM databases, journals and information from Internet web sites. The authors would like to emphasise that the overview of initiatives is certainly not exhaustive, and this paper will be revised and added to as new initiatives are uncovered and information obtained about them.

The paper will finish with some brief conclusions comprising salient features and trends of the programmes and projects which the authors consider to be relevant for the aims of the research project. Finally, a summary of projects considered will be presented in table form in order to provide more comprehensive and detailed information about the project interventions in existence.

2. OVERVIEW OF INITIATIVES REGARDING MANAGEMENT OF THE PERI-URBAN INTERFACE

2.1 Programmes

This section reviews multilateral and bilateral programmes dealing with peri-urban areas. The objective of the section is to describe programmes' conceptualisation of peri-urban areas and to identify areas of intervention including policies and strategies. Specific reference to environmental problems are highlighted together with programme approaches towards participation.

This section is organised according to programme interventions with similar topics like water and sanitation, urban agriculture, natural resource management and urban environmental planning and management.

2.1.1 *Water and Sanitation Programmes*

The main programmes related to peri-urban areas are the 'Water and Sanitation programme' from UNDP/World Bank, UNICEF and World Health Organisation (WHO) Water and Sanitation programmes, UNESCO through its 'Environment and Development programme' and the bilateral country programmes from agencies like the United State Agency for International Development (USAID), The Canadian International Development Agency (CIDA) and the French Agency for Development (FDA). There are also international networks working on urban and peri-urban sanitation like the Global Environmental Sanitation Initiative (GESI) led by an international steering committee and carried out under the umbrella of Water Supply and Sanitation Collaborative Council (WSSCC). WHO and UNICEF are some of its members. Many peri-urban sanitation initiatives are implemented by NGOs with international funding from bilateral and multilateral agencies, such is the case of CARE, OXFAM or INSAP¹.

Most multilateral and bilateral Water and Sanitation programmes conceptualise peri-urban areas as the built-up areas in the immediate periphery of cities. For instance, development agencies usually target peri-urban water and sanitation problems under the urban components of their programmes. For example, 'urban and peri-urban environmental sanitation' is one focus area of UNDP/World Bank Water and Sanitation Programme² (WSP, 1998a).

In addition to their spatial characterisation, peri-urban areas are conceptualised as squatter settlements, illegal areas, areas of high population growth due to rural migration (and natural growth), low priority areas in terms of urban planning, areas with diverse socio-cultural composition and low income, socio-economic situation (World Bank, 1999, UNICEF, 1999). An example of an intervention in peri-urban illegal settlements is the UNICEF's urban environmental sanitation project in El Mezquital, Guatemala City within UNICEF's Urban Basic services programme in Guatemala. El Mezquital is considered as an precarious illegal peri-urban settlement located in the periphery of Guatemala City (UNICEF, 1999a).

Programmes related with water and sanitation provision consider that a key environmental problem to address is the lack of access mainly of the poor in peri-urban areas to the most basic water and sanitation services. Prioritisation is mainly based on the enormous health and social costs that the lack of these services have especially on women and children. USAID's water and sanitation interventions for example aim to reduce the incidence of water-borne diseases, especially diarrhoea and parasitic diseases which affect predominantly children (USAID, 1999). UNICEF has a similar approach. Its intervention in water and sanitation programmes aims at reducing health problems especially in children.

¹ Instituto de Salud Popular - Institute of Community Health (INSAP), Peruvian NGO working with Inter-American Foundation (IAF) funding in peri-urban health projects.

² UNDP/World Bank water and sanitation programme focus areas are: Rural water supply and sanitation, urban environmental sanitation, and participation and gender.

Water and sanitation programmes of UNDP/World Bank, UNICEF, CIDA, USAID have similar policies and strategies for intervention.

The strategic sanitation approach of UNDP/World Bank's Water and Sanitation programme is based on local demand for intervention, considering the economic and social dimension of water and sanitation, participation and attention to the needs of the community in general and women in particular. The demand-based strategic sanitation approach is based on the assumption that willingness to pay for basic water and sanitation services is often high in peri-urban neighbourhoods, provided that services are appropriate, effective, and affordable. The UNDP/World Bank demand-based strategy requires implementing agencies to find out what potential users want and what resources they have to finance and manage installed systems. UNDP/World Bank also consider that this strategy helps to build capacity within implementing agencies and enhances the ability of communities to make sustainable sanitation improvements (WSP, 1998a)

Most sanitation programmes promote low-cost sanitation technologies, participatory methodologies for project design, community labour and micro-financing schemes. For instance, UNICEF's urban sanitation programme in Honduras promotes the construction of low-cost sewerage systems. An example of this intervention is the UNICEF project on peri-urban communities in Tegucigalpa which is based on low-cost sanitation facilities, cost sharing and use of rotating fund, (UNICEF 1999b).

Similarly, CIDA intervention in peri-urban water and sanitation emphasises the provision of drinking water supply through low-cost technologies, including hand pumps, wells, boreholes, gravity-fed systems and low cost on-site sanitation. CIDA's interventions in water and sanitation projects in peri-urban areas fall within its programme priorities on meeting basic human needs and the provision of infrastructure services³. CIDA's bilateral country programmes in Peru and Bolivia include improvement of access to peri-urban water and sanitation. In these cases CIDA intervenes as a funding agency and projects are carried out by NGOs (CIDA, 1999).

Other CIDA urban development programmes emphasise the need to support the development of the territories and regions in outlying urban areas in order to promote balanced and mutually supported urban-rural development. According to CIDA initiatives, this approach is crucial to avoid mass migration from remote areas and thus metropolitan concentration and congestion.

The FDA's co-operation's strategy to improve urban water supply is slightly different than agencies such as CIDA, USAID or UNDP/World Bank. Their approach is based on the provision of water by private operators who are contractually bound to the public authorities. At the bilateral level, French assistance on water supply and management is concentrated in sub-Saharan Africa (FDA, 1999). France also provides funds to the UNDP/World bank Water and Sanitation programme.

Similar to French co-operation, bilateral agencies such GTZ (Germany) and SIDA (Sweden) intervene in water and sanitation programme in peri-urban areas through provision of funding to multilateral agencies' programmes.

Another dimension of water and sanitation programmes is the emphasis on building capacity and strengthening the institutions responsible for water supply and sanitation. The UNDP/World Bank sanitation programme argues that "the level of achievement during the planning period will depend on the national capacities at all levels of government, the private sector, and communities. Until such capacities are strengthened, the high degree of reliance on international agencies and non-governmental organisations will continue. The rapid expansion of the coverage and usage of facilities will require that a wider core of national capacities be developed" (WSP, 1998b).

³ Canadian ODA resources are concentrated in six programme priorities: basic human needs, women in development, infrastructure services, human rights, private sector development, and environment.

Regarding participation of the poor and gender perspectives, most water and sanitation programmes dealing with peri-urban areas have the promotion of participation and gender issues as central to their programme objectives.

For example, one component of UNDP/World Bank sanitation programme is "Participation and Gender". The programme argues that empowering communities to take greater responsibility for the provision and management of basic services is essential in both rural and peri-urban areas. Also, the programme upholds that ensuring the participation of women in all aspects of the project cycle is necessary for success and sustainability. Human resource development, institutional strengthening, and the involvement of non-governmental organisation are also important elements of the programme's efforts.

Current Concerns and Debates at Programme Level

One of the problems that water and sanitation programmes face are the environmental and health impacts of untreated polluted water from sewage systems constructed under specific projects. As the top priority of these programmes is the provision of water and sanitation, little consideration has been given to the overall impact of polluting sewage effluent on freshwater and soil ecosystems.

Another area that receives little attention from urban sanitation programmes is whether the provision of basic infrastructure in peri-urban areas induces further migration and accelerates urban growth in the periphery of the city.

Water and sanitation programmes are also concerned with the ways in which specific project learning experiences in participatory methods and gender issues can be translated into concrete action within project cycles. For example, the UNDP/World Bank programme is analysing the results of the Indonesian water supply and sanitation project for low income communities which included efforts to reduce gender inequality in the planning, construction and management of water and sanitation sites. The programme is concerned with how to translate gender sensitivity into concrete action (WSP, 1998b).

2.1.2 Urban Agriculture Programmes

Urban agriculture interventions are usually related with peri-urban areas. The peri-urban interface is generally considered as a key area for the protection, intensification and/or expansion of agriculture production. For instance, many programmes are called 'urban and peri-urban agriculture' such as those of FAO and the Cities Feeding People programme (CFP).

Interventions in urban and peri-urban agriculture (UA) include the Cities Feeding People programme (CFP) managed by the IDRC in Canada and FAO's programmes such as the urban agriculture programme, the programme on food supply and distribution to cities (AGSM), the programme on peri-urban horticulture (AGPD), the programme on urban and peri-urban forestry (FORC) and the AGA sub-programme on peri-urban production systems on animal production and health and veterinary public health (AGAP/AGAH)⁴.

Indirectly, agencies like CIDA intervene through financing CFP and FAO programmes. There are also many international networks of urban and peri-urban agriculture. The "Support group on urban agriculture" was established in 1992 and the "Global initiative on urban agriculture" in 1996, composed of major donors and international agencies (including UNDP, IDRC, FAO, world Bank, GTZ, NRI and others). Numerous civil society organisations (i.e. CARE, SAVE, OXFAM,) have become involved in grassroots projects within cities in both developed and developing countries to support urban and peri-urban agriculture (UPA).

⁴ FAO's Urban and peri-urban forestry programme is under the FAO forestry department/forest conservation wildlife and contribution to food security programme. FAO's urban and peri-urban horticulture, the programme on food supply and distribution to cities and the sub-programme on peri-urban production systems on animal production and health and veterinary public health are part of FAO's Agriculture department

This section will review CFP and FAO programme interventions on peri-urban agriculture.

The **CFP** programme focuses on poor communities who practice UA as a means to increase household food security and to generate income. Moreover, CFP argues that around 800 million people world-wide are engaged full or part-time in UA. UA is considered a strategic component of food security as it complements rural agriculture and increases the efficiency of the national food supply. Additional arguments claim that UA practitioners often face important constraints such as limited or insecure access to resources and unfavourable local policies (CFP, 1999a).

Urban agriculture programmes conceptualise peri-urban areas in a slightly different way than water and sanitation programmes. For instance, the Cities Feeding People programme conceptualises peri-urban areas as urban-rural villages in the periphery of cities. Some peri-urban areas are small villages based on an agricultural economy. What makes them peri-urban is the fact that they are located in the periphery of urban areas and urban processes have a direct influence on them (e.g., Ngleshie-Amanfro and Abakobi which are villages made up of several communities in the periphery of Accra, Ghana) (CFP, 1999b)

CFP is concerned by rapid urbanisation processes especially in the peri-urban fringe and the impacts of this process on agricultural practices in peri-urban settlements. Furthermore, CFP is concerned about the lack of alternatives for poor peri-urban communities which have lost their traditional livelihoods based on agriculture and land access due to new housing development or changes in land tenure due to the expansion of cities.

Much of the work of CFP is focused on understanding the dynamics on land tenure, property rights and production systems in peri-urban areas especially under the threat of urbanisation. CFP is concerned with not only what peri-urban areas are now, but what they will be if current urbanisation trends and changes in property rights and land use takes place. In this context, peri-urban areas are considered to be rapidly changing areas under the threat of urbanisation⁵.

The goal of the Cities Feeding People (CFP) Program Initiative is to support development research to remove constraints and enhance the potential for urban agriculture interventions to improve household food security, income generation, public health, and waste and land management. The program has three specific objectives:

- to strengthen local research capacity and generate information on UA at the household and community level so that cities can formulate and implement policy and technology options, primarily for the benefit of the urban poor;
- to mobilise and enhance regional capacities to share experiences in UA, identify common policy and technology obstacles, and share and adapt solutions through training and networking; and
- to influence governments, policy-makers, and international agencies to effectively incorporate UA in their development programmes.

CFP supports research at the city level, working with researchers within national institutions, non-governmental organisations, and community-based organisations. The three main research areas which comprise the peri-urban interface are: (i) appropriate space-intensive production systems for low-income urban farmers; (ii) safe and affordable use of organic wastes by small-scale urban farmers to reduce risks to human health and the environment; and (iii) policy instruments to enhance low-income urban farming (CFP, 1999a).

CFP programme provides funds for research reports. The reports contain conceptual discussion and policy issues regarding urban agriculture. Some of these reports are very relevant to peri-urban areas, e.g. CFP, report 23: Farming in the shadow of the city: changes in land rights and livelihood in peri-urban Accra, and CFP report 24: Peri-urban livestock production systems.

⁵ CFP recognise that the impact of urbanisation on peri-urban areas varies for example it could imply a positive impact in terms of more access to markets or a negative impact in terms of loss of livelihood for poor communities.

Cities feeding people projects are organised in five categories (CFP, 1999c):

1. Technologies for Urban Food Production and Processing
2. Reuse of Urban Waste and Water Management
3. Urban Food Security, Supply and Nutrition
4. Policies for Urban Agriculture
5. Regional Networking

Many CFP projects make direct reference to peri-urban production systems such as Project number 27 - "Evaluation of peri-urban dairy farming production systems (West Africa)", which fall under the Technologies for Urban Food Production and Processing Project category.

The **FAO** programme approach to peri-urban agriculture is very similar to CFP, however FAO tends to emphasise technical assistance to agricultural practices. FAO notes that urban and peri-urban agriculture (UPA) tend to be referred to jointly. UPA is defined as agricultural practices within and around cities which compete for resources (land, water, energy, labour) that could also serve other purposes to satisfy the requirements of the urban population. UPA includes horticulture, livestock, and milk production, aquaculture and forestry (FAO 1998).

FAO also differentiates between urban and peri-urban agriculture. Urban agriculture refers to small areas (i.e. vacant plots, gardens, verges, balconies, containers) within the city for growing and raising small livestock or dairy cows for farmers' own consumption or sale in neighbourhood markets. Peri-urban agriculture as used by FAO refers to farming units close to town which operate intensive semi or fully commercial farms to grow vegetables and other horticulture, raise chickens and other livestock and produce milk and eggs.

Additionally, FAO (1999) makes a distinction between 'urban' and 'peri-urban' based on the density, types and patterns of land use. FAO also recognises that these characteristics vary enormously across countries. Peri-urban settlements and their related agricultural practices have some advantages over rural agriculture. For example, FAO indicates that proximity to large human settlements creates opportunities such as less need for the packing and transportation of food, potential agricultural jobs and incomes, proximity to services including waste treatment facilities and possibilities for waste recycling and re-use. On the other hand, the proximity to large settlements also implies risks to peri-urban agriculture like environmental and health risks from inappropriate agricultural and aquacultural practices, reduced environmental capacity for pollution absorption and changes in land use and tenure in favour of housing developments.

Similar to CFP, FAO's UPA programme advocates the development of land and water policies that account for agriculture production in urban and peri-urban areas, provision of adequate access to nutritious food for the growing urban population of the developing world, the integration of urban and peri-urban agriculture with rural agriculture and the guidance of agricultural practices within and outside the city towards sustainability goals (economic, social and environmental).

FAO's UPA programme aims are:

Urban and peri-urban forestry programme:

- to document and disseminate information to provide technical guidance to member countries in the field of urban and peri-urban forestry;
- to increase awareness of the issue and improve documentation and accessibility of information on the subject.

Food supply and distribution to cities programme:

- to help provide answers to the consequences of rapid urbanisation on the efficiency and dynamism of food supply and distribution systems (FSDS), and consequently, on the food security of urban consumers.

- to assist in the formulation of FSDS development programmes at urban, peri-urban and rural levels, following an inter-spatial, interdisciplinary and inter-institutional approach.

Urban and peri-urban horticulture programme:

- to intensify urban and peri-urban agriculture to secure year round market supply of fresh horticultural produce and promote urban employment and income.
- emphasis is placed on the development of strategies and dissemination of technologies for horticulture in the cropping system, and homestead gardens for improved nutrition and household food security; small-scale urban and peri-urban market gardening for improving incomes; support to global and regional networks; enhanced production of high quality and safe horticulture produce for domestic and export markets.

CFP and FAO UAP programmes express concern about environmental issues in urban agriculture. On one hand, CFP is concerned about the environmental impacts of urbanisation on peri-urban agricultural practices, like the loss of agricultural land due to urbanisation or the effects of air pollution on food production. CFP is also searching for the contribution of peri-urban agriculture to the city's environment in the form of recycling and use of urban waste for agricultural purposes.

On the other hand, FAO points out the possible impacts of peri-urban agriculture on a city's environment in the sense of quantity and quality of urban natural resources being maintained. Resources such as water and soil needed for agricultural production are in competition with other urban priorities (drinking and industrial uses of water). There is the risk from agricultural production systems in urban and peri-urban areas to health and the environment arising from excessive or inappropriate use of agricultural inputs (pesticides, nitrogen, phosphorus). However, FAO's programme recognises that there is the possibility of improving the urban environment if food production and forestry are managed appropriately.

Finally, FAO's urban and peri-urban agriculture programme outputs include:

- FAO (1994) "The potential of urban forestry in developing countries: a concept paper". An annotated bibliography on urban and peri-urban forestry was published in hard back in 1995.
- An internet database on urban and peri-urban forestry.
- The organisation of the XI World Forestry Congress, Antalya-Turkey (Session 3: Urban and peri-urban forestry - mainly European issues).
- A publication "1997/2" dedicated to urban-peri-urban agriculture includes the articles:
 - Groppo, P. & Toselly, P. (1997) "Between city and countryside: the new peri-urban issue".
 - Aldington, T. (1997) "Urban and peri-urban agriculture: some thoughts on the issue".
 - Margiotta, M. (1997) "Peri-urban agriculture in Panama: an innovative approach to environmental conservation".

2.1.3 Natural Resources Programmes

The UK Department for International Development (DFID) operates a Natural Resources Systems Programme (NRSP), one of twelve research programmes funded by the Natural Resource Research department of the DFID which together form DFID's Renewable Natural Resources Research Strategy (RNRRS). The NRSP was created in 1995, with the goal of enhancing sustainable productive capacity in selected natural resources systems, through the application of systems-based approaches. The programme comprises seven separate components: six production systems: Forest/agriculture interface, high potential production system, hillside production system, land/water interface, peri-urban interface, semi-arid production systems, and a cross-cutting socio-economic methodologies component.

The NRSP Peri-urban interface component aims at:

- developing approaches and techniques for natural resource assessment and management across the urban-rural interface, through improved productivity, control of environmental degradation and energy efficiency;

- methods of relieving urban-related constraints on village level and regional-scale farm production;
- increased and more efficient utilisation of biomass energy sources and solid and liquid wastes; and recycling resources.

The NRSP programme characterises peri-urban interfaces as areas with strong urban influences and easy access to markets, services and other resources, with ready supplies of labour, but relative shortages of land and risk from pollution and urban growth.

The NRSP conceptualisation of the peri-urban interface is similar to Cities Feeding People and FAO's urban agriculture programmes. Cross-cutting issues can be found in CFP, FAO and NRSP programmes like the impact of urbanisation on peri-urban production systems, the use of urban waste by peri-urban agriculture, air pollution effects on food production. However NRSP has a wider emphasis on natural resources management rather than a single focus on urban agriculture.

Within the Peri-Urban Interface component, the Natural Resources Institute (NRI) based at the University of Greenwich are managing a project in Kumasi, Ghana, and the Universities of Birmingham, Nottingham and Wales at Bangor are carrying out a peri-urban interface project in Hubli-Dharwad, India. There are also a number of initiatives within other agencies' programmes which are funded under the umbrella of DFID's NRSP, for example IIED and Imperial College of Science and Technology's initiative which is assessing the impacts and policy implications of air pollution on agriculture in urban and peri-urban areas in developing countries. These projects respond to the priorities identified by DFID of natural resource management, sustainable agriculture, waste recycling and energy efficiency.

2.1.4 Urban Environmental Planning and Management Programmes

There are a number of so-called 'process-oriented' programmes which focus on the development and application of environmental planning and management approaches (EPM). Although most of these programmes do not deal specifically with the peri-urban interface, several learning experiences can be obtained from their experiences in urban contexts. Overall, there are already established EPM networks, methodologies, and approaches which can be integrated into peri-urban planning and management initiatives.

Urban EPM programmes include the World Bank/UNDP/UNCHS Urban Management Programme (UMP), the Sustainable Cities Programme (SCP) launched by UNCHS (Habitat), Metropolitan Environmental Improvement Programme (MEIP) funded by UNDP and executed by the World Bank, Localising Agenda 21 (UNCHS), Best practices and Local leadership and Urban Indicators Programme by UNCHS (Habitat), the UNDP Local Initiative Facility for Urban Environment Programme (LIFE) and the Settlements, Infrastructure and Environmental Programme (SIEP) by UNCHS.

As these programme do not deal specifically with peri-urban areas, it is difficult to specify any conceptualisation about these areas. However, Allen (1999) suggests that although no programme deals particularly with the peri-urban (PUI) problematic, several projects were found to assist PUI EPM. Also, Allen revealed that several UNCHS programmes are extremely interested on improving their understanding of the challenge of EPM in the PUI.

In the same way, the Universities of Nottingham and Liverpool (1999, p.86) suggest that, although the peri-urban interface is very rarely mentioned by these programmes, it has become clear that many of the analyses and activities are actually concerned with the rural-urban fringes of cities in developing countries.

Based on interviews with programme officers, Allen (1999) suggests that there is no consensus on the conceptual definition of the PUI. For most of the officers interviewed, it is related to the area beyond the outskirts of the city or the urban fringe. For others, the PUI is defined by rural-urban linkages and flows and has no spatial definition. A third view was that 'peri-urban' could be understood as a social category, regardless of its spatial location. In other words, peri-urban

communities are those who may live in urban areas (even city inner areas) but keep strong links with rural areas.

On the other hand, the Universities of Nottingham and Liverpool (1999, p.105) consider that programmes such as UMP have a relatively narrow spatial definition of urban areas. Instead of considering the city-region, the only spatial breakdowns included the city proper, the metropolitan areas and the urban agglomeration, so the focus of the analysis tends to be on existing built-up areas. The report considers that this breakdown covers some parts of the peri-urban interface but not all. Additionally, the Universities of Nottingham and Liverpool (1999) argue that UMP analysis demonstrates an awareness of some of the implications for renewable natural resources management, but there is no specific mention of issues like urban agriculture, the use of urban waste for agriculture or land degradation which are the focus of programmes such as FAO, CFP and NRSP programmes.

Another area of debate is the discrepancies among programmes with regards of the effects of urbanisation in the peri-urban interface. According to Allen (1999), in general terms the assumption that dominates the EPM programmes reviewed is that urban development *per se* is a positive process and that people are shifting from rural to urban livelihoods world-wide. On the other hand, urban agriculture and natural resource management programmes constantly debate both the positive and the negative impacts of urbanisation on the peri-urban interface, especially their effects on the livelihoods of poor communities based on land access or tenure.

Below is a summary of some UNCHS programme approaches followed by a list of projects which may include reference to the peri-urban interface:

a) Urban Management Programme (UMP)

UMP focuses on improving the way cities do business and improving the use of existing resources. The programme has mainly focused on large cities upon the demands and commitment of urban authorities. This has probably prevented the emergence of peri-urban concerns in the consultation process in favour of well-defined urban concerns. The Latin America Regional Office has recently set up a consultation process with two peri-urban communities in Peru, affected by a combination of problems (worsening of flooding by farming practices among other factors).

UMP Projects

Through other consultation process priorities identified as closely related to PUI EPM include the following:

- Health impact on peri-urban populations of biomedical waste disposal (Dakar, Senegal; Bamako, Mali; Ouagadougou, Burkina)
- Breakdown of traditional water supply systems affecting domestic and agricultural consumption (Taiz, Yemen; Siwa, Egypt)
- Environmental hazards and land management (Lurigancho-Chosica, Lima Peru; Los Olivos, Lima Peru)
- Living and working conditions of waste pickers (Cairo, Egypt; Amman, Jordan)

b) Sustainable Cities Programme (SCP)

The SCP provides municipal authorities and their partners in the public, private and community sectors with an improved EPM capacity. The programme operates as a facilitator at four levels. At city level, demonstration projects bring together stakeholders in a process of consultation, strategy negotiation and implementation of priority projects. At a national level, demonstrations are replicated and scaled up. At the regional and global levels the programme fosters information and know-how exchange and takes advantage of economies of scale to compile lessons of experience and good practice, to develop reusable tools and procedures and to operationally support programme activities at every level.

SCP Projects:

- Chennai (India) - Improving sanitation in peri-urban poor areas and applying compost into peri-urban agriculture;
- Dar es Salaam (Tanzania) - Natural resources management (sand mining), peri-urban agriculture and urban expansion;
- Ismailia (Egypt) Water management, agricultural development and urban expansion control;
- Concepción (Chile) - Integrated regional EPM in five municipalities including an EPM plan to control erosion and flooding due to intensive and extensive use of forested hills for forestry and mining;
- Ouagadougou (Burkina Faso) - Peri-urban land degradation due to industrial soil contamination and degradation.

c) Metropolitan Environmental Improvement Programme (MEIP)

The MEIP assists large Asian cities in designing and implementing practical solution to environmental problems. The programme aims to improve local governance and to leave in place a locally anchored and sustainable EPM process. MEIP's key activities include strengthening the capacity of pollution control and environmental protection agencies and building a local environmental network to do studies, demonstration projects and workshops on environmental problems. The programme is being implemented in five Asian Metropolis: Beijing (China), Colombo (Sri Lanka), Jakarta (Indonesia), Kathmandu (Nepal) and Manila (Philippines).

d) Localising Agenda 21 (UNCHS)

The Programme supports the development and implementation of broad-based environmental action plans and enhances the ability of local and provincial authorities to integrate action plans into strategic urban development plans. It adopts a Strategic Structure Planning approach, combining the development of long term vision of the sustainable development of the city with the formulation and implementation of context-specific plans.

The programmes focus in a wide range of issues such as: urban revitalisation, buffer zone development, solid waste management and revenue rationalisation. Particular emphasis on exploring synergy between cities and nearby fragile ecosystems.

Agenda 21 projects

Two of the three pilot projects supported by the programme have PUI components addressed in an integrated EPM framework.

- Nakuru (Kenya) EPM of geological sensitive areas and protection of community-based water boreholes in peri-urban areas.
- Essaouira (Morocco) EPM on the city edge (dunes front) to arrest urban expansion.

e) Best Practices and Local Leadership Programme (BLP)

The BLP and its partner network focus on the dissemination of best practices in support of the implementation of the Habitat Agenda and Agenda 21. The programme's main output is the Best Practice Database, a networking tool available via internet and on CD-ROM. The BLP uses the incentive of the Dubai International Biennial Award for Best Practices to identify initiatives making outstanding contributions to improving the quality of social, economic and environmental life in urban areas. Case studies are used as learning tools. The programme is not directly relevant to the PUI and no specifically relevant projects have been identified.

f) Urban Indicators Programme (UNCHS)

The programme focuses on the development and testing of an integrated set of urban and housing indicators to be incorporated into a Global Indicators Database. It aims at developing tools for monitoring and reviewing the conditions of cities and the housing sector through a gender perspective, providing a benchmark for the development of urban and shelter policy. The programme is not directly relevant to the PUI project but provides a basis to develop a specific set of PUI indicators.

g) Local Initiative Facility for Urban Environment (LIFE)

LIFE aims at improving the urban environment by locally addressing the linkage between urban poverty and environmental degradation. It also promotes 'local-local' dialogue and strengthening of local institutions. LIFE methodology focuses on local solution to urban environmental problems in a process of participation and partnership of local actors in low-income settlements. The programme is being implemented in 12 countries in Africa, Asia, the Caribbean, Latin America and Middle East.

h) Settlements, Infrastructure and Environmental Programme (SIEP)

The programme focuses on the urban and peri-urban poor (those who live in the periphery of the city supporting relatives in rural areas) with particular attention to the promotion of income generation activities and micro-enterprises development for services provision. Flexibility and diversity of income generation opportunities are seen as two key factors to improve the livelihoods of the poorest. SIEP is not entirely part of EPM programmes as it focuses more in water and sanitation infrastructure provision.

SIEP Projects

- Community approach to integrated basic services promoting health and livelihood for the (peri) urban poor in three Indian cities. Funded by DFID.
- Sustainable waste management through reduction and recycling. Funded by the Italian Government.

2.2 Project Interventions

Project interventions are most commonly carried out by development agencies, which include multilateral agencies, NGOs, and research institutions. A complete list of the projects referred to below and their main features can be found in the annex to this report.

2.2.1 Conceptualisation of the Peri-urban Interface

The projects identified as dealing with peri-urban areas identify this zone in distinct ways. Firstly, in some projects it is seen as an interface between the urban and rural spheres, in which activities traditionally classified as "urban" (e.g. industry) or "rural" (e.g. agriculture) co-exist. In others, it is seen merely as the periphery of the urban area, possibly areas where the city has expanded onto previously non-urbanised land. Some projects also consider peri-urban areas to be significant because they are commonly characterised by problems such as lack of water and sanitation infrastructure and related environmental health problems, and air pollution and solid waste problems, which may be more acute or intense in these areas.

The NRI's Kumasi natural resource management project found the peri-urban interface to be characterised by the encroachment of the expanding urban area onto the surrounding rural land, thus threatening the production of natural resources and the livelihoods of small farmers. Related to this was another significant problem, that of the lack of institutional planning and management to deal with this newly-urbanised area, as the city authorities consider the area to be rural and thus outside their scope and, likewise, the rural authorities regard the area as part of the city and deny responsibility for it. Similarly, the International Development Research Center's (IDRC) project on urban agriculture in peri-urban Accra (Ghana) is also based on the impact of urbanisation on land use, property rights and peri-urban livelihoods.

The Universities of Birmingham and Wales at Bangor are carrying out a project to improve utilisation of urban waste on peri-urban farms in Hubli-Dharwad, India, in which the peri-urban interface is seen as a zone in which both urban and rural activities coexist, and the intervention seeks to increase agricultural productivity and improve farmers' livelihoods. The peri-urban (or "near-urban" as they are described in the project) areas considered are rural villages which are near to the city and are experiencing increasing connectivity and influence from it.

Similarly, a state planning policy to manage the peri-urban interface in Portland, Oregon, USA, considers the rural-urban divide as quite well-defined. The rationale behind managing the peri-urban interface is to curb urban sprawl and the encroachment of rural land, and to promote land conservation. A similar intervention in Curitiba, Brazil sees peri-urban areas as a source of potential migration to the metropolitan area and illegal settlements on river edges in the surrounding municipalities as threatening to the protection of head-water areas.

Most project interventions by development agencies and NGOs consider peri-urban areas to be urbanising areas on the city periphery, and rural linkages are rarely identified. This is the case with the World Bank's private sector involvement in water and sanitation in El Alto, which is an urban neighbourhood on the periphery of La Paz, Bolivia, with no rural connections at all; although this may be case-specific to La Paz, where the very high altitude and resulting barren landscape prevent rural activities in the region. CARE Angola's LUBAGUA project regards peri-urban shanty towns of Lubango in a similar way, however it is noted that their residents are predominantly comprised of poor *rural* people who migrated there in their hundreds of thousands during the civil war (de Fatima, 1999, personal communication).

In most cases, peri-urban areas are characterised by low-income settlements with severe lacks or absences of infrastructure and services and insecure livelihoods. For example, CARE Zambia's Project Urban Self-help (PUSH) sought to aid the most destitute of the poor, whom it identified were most commonly settled in peri-urban areas. UNICEF's projects in peri-urban settlements in Guatemala City and Tegucigalpa, Honduras focus on the provision of drinking water, based on the premise that it is a fundamental basic need, yet often absent in peri-urban settlements. UNICEF in Guatemala note that this is often the case when settlements are illegal as in the case of their case study, El Mezquital, as their illegal status means that neither municipal authorities nor private contractors are willing to invest in infrastructure provision there. LUBAGUA focuses on the health implications of lacks in water and sanitation infrastructure, identifying the prevalence of diarrhoeal diseases associated with insufficient water and sanitation services characteristic of peri-urban areas in Lubango, attributing this to the general lack of infrastructure and services in such areas. Similarly, in Europe the Edge Cities Network Project, a network of peripheral towns on the edges of European capital cities, was established to respond to common economic and social problems, such as high unemployment and crime levels, arising due to their location on the edge of the capital cities, most of which have been deeply affected by the growth and spread of the capital cities.

A project by Imperial College examining the impacts of air pollution on peri-urban agriculture considers the peri-urban area to be more significantly affected than either urban or rural areas. This arises because it has higher concentrations of both agriculture, as the city merges with rural areas, and industry, as this is increasingly located on the outskirts of cities. Similarly, UNICEF Brazil's Garbage and Citizenship project on waste-pickers on landfills considers peri-urban areas to be significant because the location of landfills is almost always in peri-urban areas as they are close but not too far from the city boundaries.

2.2.2 Themes and Aims of Interventions

Project interventions that deal with the peri-urban interface were found to focus upon diverse themes, primarily natural resource management, urban planning, infrastructure provision and the promotion of economic growth.

Natural Resource Management Projects

The NRI's project in Kumasi focuses on rural to urban land change and seeks to improve productivity on peri-urban farms while at the same time developing alternative livelihoods for farmers who have been displaced from their land by urban expansion. Some attention is also given to watershed management and the re-use of waste products.

The Universities of Birmingham, Nottingham and Wales at Bangor's project in Hubli-Dharwad is working with two issues that were identified in a preliminary baseline study: difficulties with

agricultural productivity and little re-use of urban waste. An initiative was developed whereby urban waste is separated and composted to be used as fertiliser, and peri-urban farmers are given improved access to this waste for use on their lands.

A project underway by the Centre for Environmental Technology at Imperial College, London University in collaboration with the International Institute of Environment and Development (IIED) is researching the effects of environmental pollution on urban agriculture in Varanasi, Northern India. The intervention seeks to establish the effects of such pollution and raise awareness of the impacts, with recommendations for policy at all levels.

In the Brazilian city of Curitiba, Paraná state, the municipal authorities have recognised that illegal settlements on the river-edges in surrounding municipalities are threatening the protection of head-water areas. The authorities are looking at ways of relocating illegal settlers while at the same time undertaking other initiatives including the farming or reforestation of river banks and measures to discourage migration from rural to peri-urban areas. A new piece of legislation has also been introduced to allow more flexible planning in these areas which seeks to promote selective, non-damaging development.

The study carried out by the International Food Policy Research Institute and other institutions in Ghana as part of the IDRC's Cities Feeding People Programme assesses the impact of urbanisation on land use and examines the effects of such impacts on the livelihood strategies of peri-urban farmers and property rights changes in peri-urban areas.

Urban Planning and Management Projects

In Portland, Oregon, USA, a state policy for the planning and management of the peri-urban interface has been implemented in order to curb urban sprawl and to protect the salmon and steelhead (an endangered fish species) populations in nearby waterways. The policy has entailed the establishment of an Urban Growth Boundary (UGB), similar to an urban green belt, around the urban area of Portland. The aim of this intervention was to force urban planning to take place only within the metropolitan area of the city and not on the outer side of the UGB. In this way, new new models of planning and management have been encouraged which make better use of the space available.

Infrastructure Provision Projects

Interventions by development agencies focus to a large extent on the provision of infrastructure and services, with a strong emphasis on water and sanitation and the consequent effects on environmental health.

CARE Angola's LUBAGUA project focuses on the diarrhoeal diseases related with a lack of water and sanitation infrastructure, and to a certain extent deficiencies in other areas such as nutrition, schools and health care. A similar approach is taken in USAID's intervention in Tunisia. Other projects focusing on water and sanitation infrastructure provision are the World Bank/UNDP's intervention in La Paz, and UNICEF's interventions in Honduras and Guatemala, and a project by a Peruvian NGO, Institute of Community Health (INSAP), in Lima. The project in Guatemala, longer-running than its counterpart in Honduras, has also started to focus on other activities such as reforestation for the provision of domestic fuel.

Economic Growth and Poverty Alleviation Projects

CARE Zambia's PUSH project, which has finished but continues in the form of PROSPECT, sought to target the most destitute of the poor in Lusaka and Livingstone, and specifically targeted women, as this group was found to predominate among the poorest citizens. The project focused on the immediate relief of poverty, while its predecessor, PROSPECT, has adapted a more long-term approach to poverty alleviation and seeks to help the poor to help themselves. Another CARE Zambia project, Peri-urban Lusaka Small Enterprise Project

(PULSE), focuses on stimulating the local economy by offering enterprise development loans to small businesses.

The Edge Cities project seeks to promote and stimulate economic growth and business and employment opportunities in the peripheral areas of European capital cities, characterised by unemployment and social problems.

UNICEF Brazil's project with waste-pickers in peri-urban landfills focuses on the both children's participation in this activity and the health risks associated with it. The project seeks to develop alternative management techniques for the recycling of urban waste, and to put an end to children's involvement in this activity through awareness-raising, education and social mobilisation.

2.2.3 Strategies of Peri-urban Project Interventions

Preliminary Research and Collection of Information

Most projects start with the collection of baseline information, as in the cases of the interventions by NRI in Kumasi and the Universities of Birmingham, Nottingham and Wales at Bangor in Hubli-Dharwad, where preliminary baseline studies were undertaken prior to the main project interventions.

Most project interventions involve the collection of preliminary information regarding the basic characteristics of the settlement or area to be targeted by the intervention, as in the case of the three initiatives undertaken by CARE Zambia. The USAID Community Involvement in Management of Environmental Pollution (CIMEP) in Tunisia started with a rapid assessment of conditions in communities in terms of health and socio-economic status, from which it then developed a detailed work plan. In the case of the CARE Angola LUBAGUA project, the preliminary information about the community was compiled in a database and community members were taught how to use it.

A more comprehensive approach to gathering preliminary information in settlements or areas, particularly for projects with a community-based approach is the use of appraisal techniques. These techniques are more often used in projects which consider the peri-urban interface from a rural perspective, such as in the Cities Feeding People project in Accra and in the natural resource information project by Geographic Data Support Limited in Kumasi, which use Participatory Rural Appraisal and Rapid Rural Appraisal respectively. A component of the study by Imperial College was research to assess the role of agriculture in the livelihoods of farmers and their perceptions of pollution and its effects.

Community Participation

A fundamental component of most projects is participation, and local people and communities have multiple roles in this respect, including decision-making power, voluntary labour and financial contributions. The role of community participation is becoming increasingly emphasised, especially in interventions taking place at grassroots level. For example, in the project being undertaken by Imperial College with peri-urban farmers, one of the strategies being employed is the involvement of farmers at all stages of the project.

In other projects communities are involved in the identification of their priorities. In the LUBAGUA project this activity takes the form of community participatory diagnostics, in which the community itself identifies its needs and proposes solutions. The role of CARE project staff in this situation is to *facilitate* the decision-making process in the community and help the residents to arrive at a consensus regarding their priorities. Methods for co-ordinating community participation include community meetings and workshops, as in the case of USAID's CIMEP project in Tunisia.

CARE Zambia describes PUSH as a process project, in which all outputs and activities are defined by the community. The project consists of three mutually-enforcing components:

1. Personal empowerment: to identify key issues and build the capacity of individuals to respond, for example by training;
2. Social empowerment/local institution building: through the election of area-based organisations to address issues at the community level, and collaboration with city councils to address issues at the municipal level;
3. Infrastructure improvement: to translate the above into practice through the provision and improvement of physical infrastructure.

CARE Zambia's Programme of Support for Poverty Elimination and Community Transformation (PROSPECT), which is the successor to PUSH, is built on these three components with the personal empowerment component being proposed mainly through access to micro-credit.

The UNICEF intervention in Tegucigalpa, Honduras, is an example of decision-making that would usually be done by the agency or authorities having been transferred to the community. The community has taken over the management of a water system that was constructed as part of the intervention. The community is responsible for the construction, administration, maintenance and operation of the system, and maintains these activities by collecting fees for the use of the system. Similarly, in CARE Zambia's PROSPECT project, water infrastructure was installed, and the running of the system was passed over to the community area-based organisation, which took full responsibility for the management and maintenance of the system, and collection of the tariffs.

Not all projects advocate community participation. Some projects which are technical in nature, such as the project to develop digital and satellite surveys in Kumasi, are undertaken by trained project staff and do not comprise community participation. In contrast to the above initiatives which are mainly based in the South and in which community participation is a fundamental component, various projects from the North do not emphasise the role of the community whatsoever. This stance is exemplified by the Edge Cities Network, which sees the greater involvement of local businesses in the local economy as the solution for the social problems in the area associated with high levels of unemployment, and does not specifically target local people to take steps to improve their own situations.

Community Labour

The dominant method of undertaking specific project initiatives, in particular the installation of infrastructure, is to use community participation in the form of labour contribution. This contribution is usually supported by technical assistance provided by the development agency, often in an "exchange" agreement for the community's contribution of labour. In the UNICEF intervention in Tegucigalpa, Community Water Boards were set up within communities, and together the residents helped construct sewage systems in their settlement.

No projects described here remunerate community members for their participation in the construction of infrastructure; however, in the early stages of CARE Zambia's PUSH project, food rations were offered in return for labour, but this was a component of the project's objective to respond to the need of the very poorest community residents.

Micro-credit

Aside from contributing labour, communities are increasingly expected to contribute financially to project interventions, especially where infrastructure is provided by a privatised agency. There are many examples of peri-urban projects using this strategy. In the World Bank/UNDP's project in La Paz, the community was expected to repay little by little the installation costs, eventually covering the full project cost. Similarly, the UNICEF intervention in Tegucigalpa set up a rotating fund in order to recuperate the costs of the water and sewage system constructed. UNICEF's intervention in Guatemala City does not use a rotating fund, but sets aside a portion of the fees charged for the use of the community water supply and uses these to invest in other infrastructure.

CARE Zambia's Peri-urban Lusaka Small Enterprise Development Project (PULSE), is based on the provision of micro-credit, and makes small loans to local entrepreneurs and businesses

to get them off the ground. Participants of PROSPECT are able to apply for credit from PULSE if they want to launch a business initiative.

Education and Training

Capacity-building within the community is another important method of reinforcing community participation. This process entails the training of certain members of the community to carry out tasks, from which the individual gains from learning new skills and the community benefits from the use of these skills during the intervention. It is also widely believed that education and training helps to maintain the infrastructure provided, thus constituting a more long-term approach. A case of this is the UNICEF project in Guatemala City, in which community residents are given technical training in basic environmental sanitation in order to be able to construct, operate and maintain the facilities installed.

In the CARE Angola LUBAGUA project, CARE trains community members to disseminate hygiene and health information to households. In a similar way, the UNICEF team working in Tegucigalpa are implementing a hygiene education programme to complement the improvements in infrastructure, in order that good hygiene practices when using the facilities does make an improvement to health.

Provision of Infrastructure

A focus of many development agency projects is the provision of infrastructure and services to peri-urban communities, because they are often severely lacking in this respect. Many urban-oriented interventions focus on the provision of such facilities to meet basic needs, most commonly related with water, sanitation and health. In accordance with the economic status of settlements facing these deficiencies, most projects aim to provide low-cost and low-technology infrastructure. This is because it is both cheaper for communities to finance and simpler for them to help with and/or learn the installation procedure.

UNICEF's projects in Guatemala City and Tegucigalpa, and the project by INSAP in Lima all take this approach. The UNICEF intervention in Tegucigalpa aims to provide low-cost sewage systems for the poor, and the project in Guatemala City seeks to install low-cost and technology water and sanitation infrastructure, comprising drains, sewers and latrines. The project by INSAP in Lima also features low-cost and technology sanitation infrastructure including latrines and refuse disposal facilities. The wider aim of these three interventions is the improvement of communities' environmental health from improvements in water and sanitation infrastructure.

Institutional Relationships

Many project interventions seek to establish partnerships with local government agencies or privatised public service agencies, and this strategy is now replacing previous strategies whereby development agencies provided facilities themselves. An important component of interventions is to improve the capacity of such agencies in order to better service the communities.

The World Bank/UNDP project in La Paz seeks to develop a model for public-private water and sanitation provision with the private water company Aguas del Illimani, which is usually reluctant to install infrastructure in low-income settlements. CARE are managing two similar interventions in Zambia and Angola in which water systems are installed in communities in partnership with private agencies. The LUBAGUA project in Angola established a partnership with the Provincial Directorate of Water to install facilities in peri-urban areas, and also sought to improve the capacity of the agency itself by seconding some CARE staff. In CARE Zambia's PROSPECT project, water infrastructure was installed jointly by the community, CARE and the Lusaka Water and Sewerage Company, and the running of the system was passed to the community area-based organisation, which took full responsibility for the management and maintenance of the system, and collection of the tariffs. The project run by INSAP in Lima also sought collaboration

with the public sector in the provision of free or low-cost medical care to low-income peri-urban settlements.

The USAID CIMEP intervention in Tunisia sought to establish more extensive partnerships for the extension of municipal services to peri-urban areas, involving *national* decision-makers along with municipalities and communities. This was carried out in the form of round-table meetings with representatives of all stakeholders.

The State of Oregon advocates dialogue between all levels of government and state environmental agencies for the effective management of its UGBs. Similarly, the project with peri-urban farmers being undertaken by Imperial College also seeks to improve communication at all levels, by promoting dialogue between the farmers, researchers, planners and policy-makers.

The Edge Cities Network, on the other hand, focuses on improved relations with the private sector, targeting the involvement of small and medium-sized enterprises in order to revive the local economies and create employment. However, most of the definition of priorities and strategies for intervention is restricted to its committee, which comprises representatives from the city council in each an Edge City.

Projects that make no attempt to establish such relationships include the UNICEF interventions in Tegucigalpa, Guatemala City and the project focusing on urban waste-picking in Brazil.

Monitoring

A usual and important component of projects is the continuous monitoring and improvement of strategies throughout their execution. This is especially important because community participation is a complex process and set-backs and difficulties occur frequently, not always through the fault of the agency or because of the use of certain techniques.

In the LUBAGUA project, monitoring was carried out throughout, and a feedback system where all suggestions were shared was a component of PUSH. As part of the USAID intervention in Tunisia, the project had a management and monitoring team which included a specialist in community participation.

Sustainability

The wider objective of most agency intervention projects is sustainability, meaning the continuation of the project by the community without the assistance of the development agency. In most cases the aim is that the community will take over the project and manage it once the agency has established it, primarily to maintain the infrastructure installed, building on organisational structures and infrastructure and possibly implement further initiatives. The final aim of the LUBAGUA project is to form a solid partnership between the communities and the Provincial Directorate of Water, and for the project to continue with no further funding from CARE. The UNICEF project in Tegucigalpa shows how decision-making power that would usually be held by the municipal authorities was transferred to the community in order that it uphold the initiative.

Another feature that can be mentioned here is that successful projects - or lessons learned from them - are replicated in other areas or applied to other situations. This has been the case with both the World Bank/UNDP project in La Paz and the USAID experience in Tunisia. The CARE Zambia PUSH project led to the creation of PROSPECT; however the experiences and evaluation of the former project led to the latter being very different in some respects. For example, the initial offering of food rations in return for community labour in PUSH was phased out in favour of more long-term initiatives to reduce poverty in PROSPECT, by transferring the emphasis to personal and institutional capacity-building.

Recommendations for Policy

Finally, certain projects aim to evaluate processes and make recommendations based on good practice, on the assumption that lessons from intervention will be incorporated into policy. Such projects include the project working with peri-urban farmers being undertaken by Imperial College and the Cities Feeding People project in peri-urban Accra.

Other Strategies

Other strategies that are not so widespread include highly technical solutions such as those being undertaken in Kumasi by Geographic Data Support Limited, which is making aerial surveys of the area to develop land-use classifications with the aid of digital data and satellite images. A sub-project of the NRI's intervention in Kumasi aims to install a Geographical Information System (GIS) in order to provide, organise and handle natural resources data for the city-region, which in turn is assumed to be important when managing natural resources in the area.

In Curitiba, Brazil, the State authorities have implemented various initiatives for the planning and management of peri-urban areas. Firstly, an initiative is underway to relocate squatter settlements on river banks, as they threaten the protection of headwater areas, and the stability of the river banks themselves. Land sites with housing are provided elsewhere, which also serve to discourage rural migrants from moving to the municipal area of Curitiba. The river banks are then converted to an alternative land-use: cultivation, reforestation or leisure (parks) in order to prevent surface runoff and soil and bank erosion. In Portland, Oregon, the principal strategy in managing the peri-urban interface is the definition of Urban Growth Boundaries (UGBs), which function like a green belt. This is very much a physical planning response to the potential urban sprawl of the city.

2.2.4 Good Practice and Recommendations for Policy

Development agencies and NGOs in particular are involved in a constant process of project evaluation in order to learn from successes and failures, in order to incorporate these lessons into other projects and refine their techniques. These lessons can also influence the strategy and policy of funding agencies. For example, a strategy advocated by most agencies working with grassroots interventions is the promotion of community participation, which evolved from lessons learned from interventions to provide infrastructure which fell into disrepair once the agency had pulled out.

This section will include evaluations from selected projects described within this report, as not all projects are advanced enough to have evaluated their successes, failures and lessons, and in other cases such evaluations are not available.

Community participation in general tends to be evaluated in a positive way, as in the cases of the World Bank/UNDP project in La Paz and CARE Zambia's PROSPECT project. CARE Zambia's previous project, PUSH, which was directed principally at the poorest residents, mostly women, was also found to have positive results, as it led to the greater involvement of women in decision-making. The project was successful in promoting training and savings to the extent that this became the focus of CARE Zambia's new project, PROSPECT. PROSPECT also found the establishment of the area-based organisations particularly successful, and the micro-credit schemes were generally managed well. The challenge for the project now is whether the community can take over the running of the project without the assistance of CARE.

An evaluation of the USAID CIMEP intervention in Tunisia concluded that government officials and the local population better understood the ways that environmental conditions impact on health, leading people to start to take steps to improve their environment. The project notes that it was important to involve officials in all stages of the project, especially at the stage of data collection, as it was important for them to feel that they owned the data being produced and were therefore responsible for the progress of the intervention. The project also illustrates a fundamental change in perception with regard to community participation: at the start of the project the officials saw participation merely in terms of labour and financial contributions,

however during the project they came to see that the community possessed richer potential and redefined the concept of participation into one in which community members chose and directed their own projects, leading to a more enthusiastic response and a more positive outcome. The project evaluation concludes that infrastructure investment alone is insufficient for achieving long-term improvements in well-being, and that the support of policy-makers at all levels was critical to the success.

Findings from UNICEF's projects in Tegucigalpa and Guatemala City found that low-cost sanitation systems are a feasible solution for low-income communities, and that the combination of infrastructure provision together with hygiene education and training worked well in general, although there was still some misuse of facilities in Tegucigalpa. The main constraint identified by the two projects was the financial aspect of the intervention, as the Tegucigalpa intervention found that costs were too high for the poorest residents and fund-raising was difficult in Guatemala City. The project in Tegucigalpa also found that treatment for outputs from the sanitation system needed to be addressed, and this was identified as a constraint to the expansion of the strategy on a larger scale. The project in Guatemala City identified the need for solid community organisation and participation as a key factor for the success of the project, and also identified the need for the municipal authorities to be more flexible in integrating communities into decision-making processes. Its recommendation for future practice and policy is that community participation is a vital component of interventions, however it needs to be *integrated* into the whole process, that is, not just contributing labour and financial resources to the provision of infrastructure, but participating in the identification of its needs and decision-making processes. Furthermore, the project concluded that community participation alone is not the only important component: a successful intervention depends upon the effective collaboration between *all* parties involved in the intervention including the municipal authorities, the private sector (if applicable), the agency undertaking the intervention, as well as the community itself.

The Cities Feeding People project in Accra also identified strong local leadership as a key factor in the success of a project, adding that community leaders need to be well-informed about the changes occurring in the areas in which they live and they also must be seen to be acting in the best interests of the community, in order to gain popular trust and co-operation.

CARE's intervention in Angola highlighted some further considerations to be taken into account from the perspective of the agency. It emphasises the needs for project staff not to dominate participatory processes, but to act as facilitators at all times, in order to make the community feel as if they are managing the project. A good relationship between the agency and the community and other stakeholders was identified as important.

A very interesting case for this section is the INSAP environmental health project in peri-urban Lima, whose strategy was reviewed and evaluated by USAID. The project had some positive results, such as the good balance of technical and non-technical solutions, although this was attributed in the most part to the manager of the environmental sanitation component, who was a community-oriented engineer with much experience and an in-depth understanding of water and sanitation projects from both technical and social perspectives. However, although the project promoted community participation, it did not manage to instil responsibility in the community for the maintenance of the infrastructure. In this respect, the USAID analysis identified that there was little opportunity for capacity-building or sustained behaviour changes, which is considered to be critical for sustainability (as defined in the previous section). Also, the project failed to identify potential affordable services for which the community might be willing to pay, thus restricting the intervention to low-cost technical solutions which were feasible under the budget. USAID also identified a weak internal structure within INSAP itself, and found that it had very little access to new thinking and strategies of community participation which are constantly reviewed by agencies like USAID. The recommendations made by USAID for this particular intervention were capacity-building within INSAP in order to better manage and monitor projects. It also advocated the integration of enablement into participation processes, in the way described above with respect to the CARE intervention. Finally, it called for greater public sector collaboration, as INSAP had focused on the provision of health care itself, whereas it could have tried to rely on the public sector to a greater extent by establishing stronger links.

In a case which does not evaluate community participation, the State of Oregon has found that keeping the UGBs fixed, like green belts, has successfully curbed urban sprawl, and has forced development and planning processes to adapt to this situation, making planners and developers look to new ways of developing within a limited area.

3. CONCLUSIONS

It is important to highlight that the programmes and projects described in this report are certainly not exhaustive. The authors believe that there are many projects underway, which do not specifically refer to the peri-urban areas but which do deal with the management of peri-urban areas, probably in conjunction with other urban areas. This is particularly true of initiatives being taken by municipal planning authorities in cities world-wide. Evidence of this was uncovered by Allen (1999) on her visit to United Nations agencies in Nairobi, Kenya.

This report has identified two dominant trends with regard to the conceptualisation of the peri-urban interface. On one hand, some agencies consider the peri-urban to be a transition zone between urban and rural. Agencies with this perspective include DFID through its Natural Resources Systems Programme, IDRC through its Cities Feeding People Programme and FAO. Some projects of these agencies work in villages on the city periphery, or just outside urban centres, such as the Universities of Birmingham, Nottingham and Wales at Bangor's intervention in Hubli-Dharwad, and the IDRC's project in peri-urban Accra. On the other hand, another dominant tendency demonstrated by agencies is to regard peri-urban areas those merely on the urban fringe - most commonly newly urbanised or urbanising areas - and thus not drastically different from other urban areas with similar characteristics. Agencies of this kind include USAID, UNICEF, the World Bank and CARE.

There is also a significant difference between the themes and strategies of the interventions which is a consequence of the agencies' conceptualisation of the peri-urban interface. The agencies which merely consider peri-urban areas as the urban fringe tend to support interventions with an urban focus, commonly concentrating upon the lack of infrastructure, and seek to provide drinking water and sanitation systems, and community health education. Those agencies that have a more rural focus by considering the peri-urban to include the rural areas in proximity to the city boundaries often focus on natural resources management including urban agriculture and the impacts of pollution, and focus upon new practices for improved and sustainable livelihoods, rather than the provision of infrastructure. Thus a wide variety of themes can be found among peri-urban programmes and projects. In terms of dominant strategies, the majority of development agencies demonstrate an overwhelming commitment to community participation as a strategy for managing the peri-urban areas.

Finally, the authors emphasise the value of the programmes and projects promoting environmental planning and management approaches which formulate recommendations for policy and practice. We believe that the chosen methodological practices and the evaluations of good practice from these programmes will be important for this project's final output of providing policy guidelines for the environmental planning and management of peri-urban areas, with particular attention to the livelihoods of the poor.

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5. ANNEX: SUMMARY OF PROJECT INTERVENTIONS

Agency / programme / project / funding body	Themes	Rationale	Actors	Approaches
CARE Angola: Lubango Peri-urban Social Mobilization and Hygiene Education (LUBAGUA) Funded by the Government of the Netherlands	Environmental health	Diarrhoeal diseases related with lack of water and sanitation and lack of services in general (in particular schools, food, health care) characteristic of peri-urban areas)	Residents of <i>bairros</i> (shanty towns) on the periphery of the city of Lubango	<ul style="list-style-type: none"> • Community participatory diagnostics whereby communities identify and contribute towards problems and solutions • Health and hygiene promotion: training of community health promoters who conduct visits to communities and impart their knowledge about health and hygiene to community members • Neighbourhood “clean-up” campaigns (refuse) • Partnership with Provincial Directorate of Water (DPA) in order to construct water and sanitation infrastructure in peri-urban areas • Construction of physical infrastructure e.g. building latrines
CARE Zambia: Peri-urban Lusaka Small Enterprise Project (PULSE) Funded by DFID	Micro-credit	Lack of access to credit at affordable interest rates (prevalence of loan sharks); lack of skills; economic/ political climate	Small businesses/ poor entrepreneurs	<ul style="list-style-type: none"> • Scheme of short-term loans based on lending to groups with 10% down-payment • Training
CARE Zambia: Project Urban Self-help (PUSH) Funded initially by DFID and then by CIDA and World Food Programme	Livelihoods of the poorest	Aid to poorest and most destitute commonly found living in peri-urban areas	CARE Community residents	<ul style="list-style-type: none"> • Full consultation with residents at all stages: <ul style="list-style-type: none"> * personal empowerment: needs assessment * social empowerment: Area-Based Organisations (CBOs) * local institution-building: Lusaka and Livingstone City Councils * infrastructure improvement • Food rations in return for labour • Develop communities’ capacity to continue intervention without assistance from agency • Feedback system among agency staff

Agency / programme / project / funding body	Themes	Rationale	Actors	Approaches
CARE Zambia: Programme of Support for Poverty Elimination and Community Transformation (PROSPECT) <i>formerly Assistance for Peri-urban Livelihoods (APUL)</i> Funded by DFID	Environmental Health Micro-credit	Involvement of private sector for increased efficiency	Local institutions Local businesses Communities	<ul style="list-style-type: none"> • Promotion of use of commercial management principles • Empowerment/training • Community labour • Micro-credit • Dissemination
COHAPAR, Paraná State Housing Agency, Curitiba, Brazil: Programme to remove favelas from river bank areas Funded by World Bank	Head-water protection	Illegal settlements on river-edges in surrounding municipalities of Curitiba threatening protection of head-water areas	Illegal settlers COHAPAR	<ul style="list-style-type: none"> • Municipality buys land on which illegal settlements are present and offers it to COHAPAR • COHAPAR obtains loan from World Bank to buy sites • Sites are cleared and recreational facilities are installed or land is reforested • Compensation not given but families offered a title to an alternative piece of land ???
European Union: European Programme for Inter-regional Co-operation and regional economic innovation Edge Cities Network Project: developing the capacity of towns and cities on the edge of Europe's capitals for employment creation and SME (small and medium enterprise) co-operation	Employment Business	Common economic and social problems and challenges which characterise peripheral areas, due to the growth and spread of the capital city	Edge Cities Network Committee Local businesses Edge City residents	<ul style="list-style-type: none"> • Research to better understand dynamics of edge cities • Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis of each edge city • Establishment of network for collaboration and sharing of information and know-how • Implementation of pilot projects specific to each edge city • Development of strategic plans for local businesses • Creation of models and structures for employment creation
Geographic Data Support Limited Natural Resources Systems Prog. Development of methods of peri-urban natural resource information collection, storage, access and management (Kumasi, Ghana) Funded by DFID	Geographical Information Systems (GIS)	Identification of serious constraints to the management of peri-urban natural resources due to lack of data	Not known	<ul style="list-style-type: none"> • Participatory Rural Appraisal • Aerial survey of Greater Kumasi area by advanced digital cameras • Classification of areas around Kumasi • Comparison with digital data from 1970s and SPOT (Satellite Panchromatic) image from

Agency / programme / project / funding body	Themes	Rationale	Actors	Approaches
<p>Imperial College of Science, Technology and Medicine (London University), Centre for Environmental Technology; and International Institute for Environment and Development (IIED) Programme: Environment Research Programme (DFID); Sustainable Agriculture & Rural Livelihoods (IIED) The impacts and policy implications of air pollution on agriculture in urban and peri-urban areas of developing countries: a case study from India (Varanasi, India) Funded by DFID</p>	<p>Air pollution Urban agriculture</p>	<p>Lack of food security in mega-cities in developing countries and threat of air pollution to food production, by way of reduced yields. Peri-urban agriculture thought to be significantly affected due to concentration of industry on outskirts of cities.</p>	<p>Peri-urban farmers Researchers Planners Policy-makers</p>	<p>1994</p> <ul style="list-style-type: none"> • Participation: involve farmers in all steps of process • Improve communication between farmers, researchers, planners and policy-makers to address problem and influence policy • Research assessing role of agriculture in livelihood; how farmers perceive pollution; effects of pollution • Examine potential policy solutions • Raise awareness of impacts and policy implications at all levels
<p>International Food Policy Research Institute (Washington), Lands Commission (Accra) & Noguchi Memorial Institute for Medical Research of the University of Ghana Programme: Cities Feeding People Farming in the Shadow of the City: Changes in Land-rights and livelihoods in Peri-urban Accra Funded by International Development Research Center - IDRC</p>	<p>Urban agriculture</p>	<p>Impact of urbanisation on land use, property rights and livelihoods</p>	<p>Peri-urban farmers</p>	<ul style="list-style-type: none"> • Literature review • Rapid rural appraisal • Recommendations for interventions and policy
<p>International Livestock Research Institute (ILRI) Ethiopia Programme: Cities Feeding People Evaluation of peri-urban dairy farming production systems (West Africa)</p>	<p>Urban agriculture</p>	<p>See above</p>	<p>Peri-urban dairy farmers</p>	<ul style="list-style-type: none"> • Survey (questionnaires) • Technical course to familiarise project teams with information technology

Agency / programme / project / funding body	Themes	Rationale	Actors	Approaches
Funded by International Development Research Center - IDRC				
Institute of Community Health (INSAP) Programme: Environmental Health Project (USAID) Peri-urban Environmental Health Project in Lima, Peru Funded by Inter-American Foundation (IAF)	Environmental Health	Low income settlements of a peripheral district of Lima	INSAP USAID Communities Public sector	<ul style="list-style-type: none"> • Provision of free and low-cost medical care • Provision of environmental sanitation (latrines, garbage dumps) by low-cost technology • Survey and sanitation of irrigation canals • Community participation • Community activities to control disease vectors • Collaboration with public sector • Strategy review of project by USAID
Natural Resources Institute (University of Greenwich): Programme: NRI: Natural Resources Systems Programme - Peri-Urban Interface Production System Research Kumasi Natural Resource Management Research Project; incorporating sub-project “installation, support and maintenance of an integrated information system for peri-urban natural resources systems research” Funded by DFID	Agriculture Energy Watershed	Vulnerability of livelihoods due to land-use change from rapid urbanisation; implications of insecure land tenure on land use	Peri-urban farmers (especially women farmers) Chiefs and queen mothers Government planning agencies	<u>Executed intervention:</u> <ul style="list-style-type: none"> • Prototype for Global Information System (GIS), to handle natural resources data for Kumasi city-region <u>Suggested interventions:</u> <ul style="list-style-type: none"> • Secure land tenure: involve chiefs or local authorities? System of allotments? Develop alternatives for sustainable livelihoods • develop strategic regional planning for city-region, long-term environmental planning; provide technical assistance to planners • more research into peri-urban agriculture and restraints to farmers • re-use of waste products • watershed management; improve water quality
Paraná State Housing Agency (COHAPAR), Curitiba, Paraná, Brazil: Village Housing Programme Funded by World Bank	Migration	Reduction of urban expansion of small towns and metropolitan areas from migration	Municipalities State agencies Communities	<ul style="list-style-type: none"> • Municipal and state authorities make technical decisions e.g. choice of site • Community decision on design of site, e.g. consideration of soil conditions, water resources and environmental management • Provision of land site and house to families • Cost recovery system using long-term loans; infrastructure costs paid by municipality

Agency / programme / project / funding body	Themes	Rationale	Actors	Approaches
State of Oregon, USA: Management of Urban Growth Boundaries [UGBs] in Portland, Oregon Self-funding	Urban planning	Increased development pressure on urban land, e.g. steep slopes, remnant patches of forest, urban sprawl, encroachment on rural land	Local, regional, state, federal government: Oregon Dept of Land Conservation and Development State environmental management agencies Other stakeholders e.g. farmers, developers, neighbours, politicians, environmentalists etc.	<ul style="list-style-type: none"> • Choice of sites along roads for access to agro-industry being considered • Creation of Urban Growth Boundaries (UGBs) - implications for land planning and development • Inter-institutional addressing of endangered species issues
The Universities of Birmingham, Nottingham and Wales at Bangor, UK: Programme: Natural Resources Institute (NRI): Natural Resources Systems Programme - Peri-Urban Interface Production System Research Improved utilisation of urban waste by near-urban farmers in the Hubli-Dharwad city-region (Karnataka, India) Funded by the UK Department for International Development (DFID)	Agriculture Waste	Poor soil fertility and lack of re-use of urban waste	Municipal authorities and planning agencies Local universities Peri-urban farmers Private sector contractors Waste pickers	<ul style="list-style-type: none"> • Consultation with small farmers in 4 villages • Composting waste trials with small farmers, full farmer participation in design, development, monitoring and evaluation • Dissemination including farmer-farmer exchange of knowledge • Workshop with local, national and international expertise to consider information collected and problems/ priorities identified • Liaison with institutions to co-ordinate planning • Involvement of NGOs/ CBOs, especially with waste pickers • Gender-aware approach
UNESCO: Programme: Project on Cities - Management of Social Transformations and the Environment Appui aux Quartiers pour l'Amélioration du Cadre de Vie / Sustaining Human and Environmental Health in Peri-urban	Sanitation	Settlement in a satellite city of Dakar	Not known	<ul style="list-style-type: none"> • Construction of sewage ponds, latrines, water stations • Waste collection carts • Credit/savings

Agency / programme / project / funding body	Themes	Rationale	Actors	Approaches
Coastal Communities (Dakar, Senegal) Self-funded				
UNICEF: Urban Sanitation Programme / Urban Basic Services Programme (Guatemala City) Urban Environmental Sanitation in Illegal Settlements - El Mezquital (Guatemala City) Self-funding	Water & Sanitation; environmental improvement	Lack of sanitation infrastructure and associated environmental health risks in peri-urban settlements	UNICEF Government agencies Communities	<ul style="list-style-type: none"> • Community-based initiatives in association with NGOs and government agencies for provision of basic infrastructure using low-cost technology • Community technical training in basic environmental sanitation • Community finance for water infrastructure: portion of water fees set aside for sanitation infrastructure • Reforestation for wood for wood-burning stoves
UNICEF: Urban Sanitation Programme Construction of low-cost sewerage systems in Tegucigalpa, Honduras: a feasible solution for the urban poor? Self-funding	Water and sanitation	Environmental health problems arising from lack of water and sanitation facilities	UNICEF Communities Community Water Board (CWB)	<ul style="list-style-type: none"> • Low-cost technology • Community participation including labour • Community raising of 40% of finance; cost sharing based on a rotating fund • Formation of CWB: owns, operates, manages and maintains system. • Hygiene education project to promote good use of infrastructure
United Nations International Emergency Children's Fund (UNICEF): Programme: Urban Sanitation in Brazil Garbage and Citizenship: An Administrative Urban Environment Experience with a Focus on Social Issues Self-funding	Urban waste (waste picking) Environmental Health	Waste-picking as a livelihood in rapidly growing urban/PU areas; health risks associated with waste picking; participation of children and adolescents; waste picking as inhumane and environmentally and socially unsustainable	Waste pickers, esp. children/adolescents UNICEF	<ul style="list-style-type: none"> • Emphasises <ul style="list-style-type: none"> * education * social mobilisation * awareness-raising • Considers relationships between actors • Use of technical solutions (better infrastructure) along with other strategies • Technical support to seminars • Production of materials (information/education) • Collecting information • Create administrative model for urban solid waste management

Agency / programme / project / funding body	Themes	Rationale	Actors	Approaches
				<ul style="list-style-type: none"> • Monitoring
<p>USAID*: Programme: Environmental Health Project Community involvement in management of environmental pollution in Tunisia (CIMEP) Self-funding <i>* From the information provided it is not clear whether USAID itself or a local NGO is directing the intervention</i></p>	Environmental Health	Peri-urban areas as recipients of urban pollution; effects on environmental health	Peri-urban communities Municipalities National decision-makers	<ul style="list-style-type: none"> • Partnerships between actors
<p>World Bank/UNDP: Water and Sanitation Programme Private Sector Involvement in Water and Sanitation in El Alto, La Paz, Bolivia Principally funded by the World Bank with contributions from other sources including UNDP and the Government of Bolivia</p>	Water & Sanitation	Neighbourhood on periphery of La Paz, suffering lack of urban infrastructure and characterised by low-income population due to location	World Bank Privatised Water and Sanitation Company "Aguas del Illimani" Peri-urban communities	<ul style="list-style-type: none"> • Partnership between World Bank, Aguas del Illimani and local communities • Participatory Rapid Urban Assessment • Use of low-cost technology • Technical assistance from World Bank/UNDP • Community labour • Micro-credit • Expansion to similar communities